

Solar Water Heating Applications in Arizona

Presentation Before the Maricopa
Associations of Governments

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Solar Technologies



- ★ Residential Solar Water Heating



- ★ Residential Solar Swimming Pool Heating



- ★ Commercial Solar Water Heating

- ★ Commercial Swimming Pool Heating

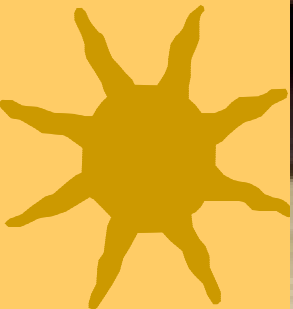
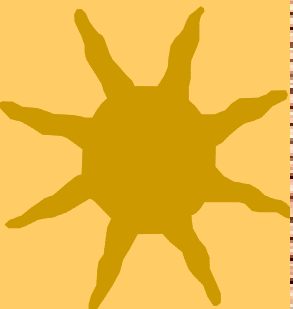
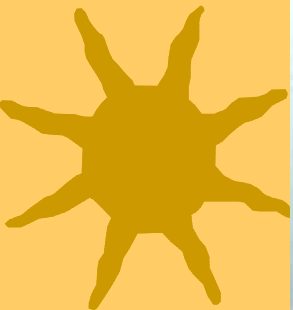


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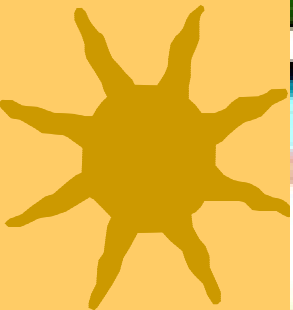
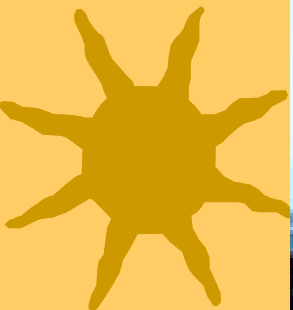
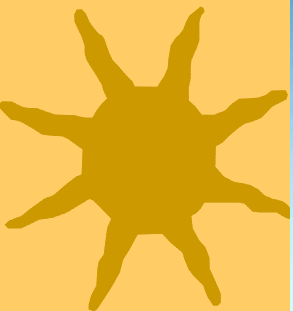


Solar Water Heating





Solar Swimming Pool Heating





Multi Family Water Heating



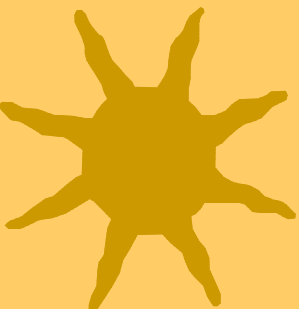


Commercial Water Heating





Commercial Pool Heating





Economic Development Benefits



- ◆ Money saved is kept in our community



- ◆ \$2.8 million saved by Arizona families monthly equals \$4.67 million in benefits.

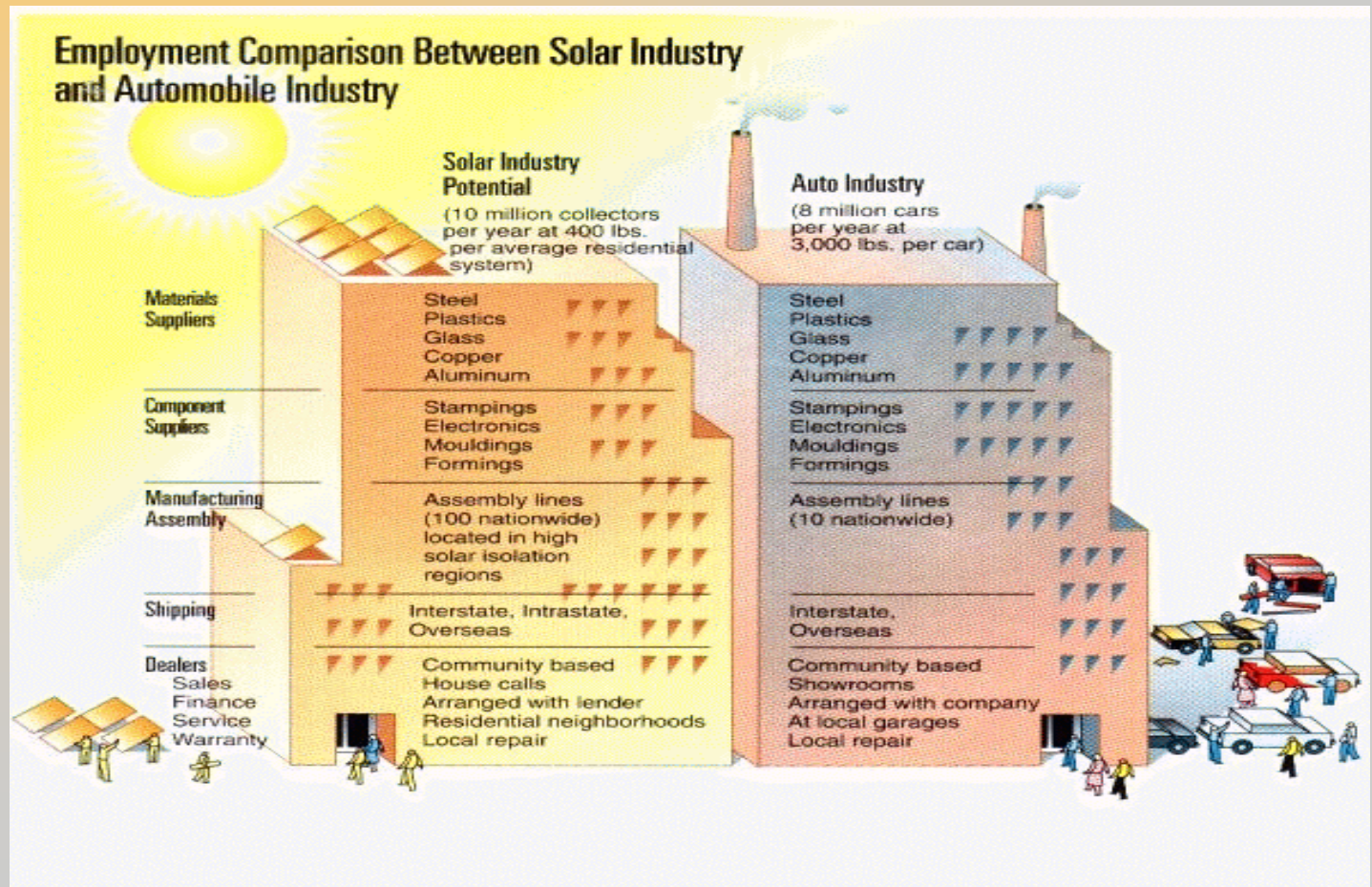


- ◆ Increased property values for Arizona homeowners and businesses.

- ◆ Potential export market

- ◆ Creates jobs in a variety of sectors.

Industry Potential





Air Quality Benefits



- ◆ Pollution free water heating.
- ◆ Current U.S. solar DHW systems eliminate the emissions of two medium sized coal power plants.
- ◆ By using solar energy to heat water in place of electricity, 2900 pounds of pollution is avoided.
- ◆ By using solar energy to heat water in place of a natural gas water heater, 1200 pounds of pollution each year.
- ◆ The above figures are based on 55% of a 70 gallon per day load at 120 degrees.



Air Quality Benefits



- ◆ One solar water heating system (average cost \$3000) avoids the equivalent emissions of driving 6,540 miles, a 3 KW PV (average cost \$20,000) avoids 9,369 miles.
- ◆ The average solar swimming pool heating system avoids the production of 10,000 pounds of emissions.
- ◆ A neighborhood of 500 homes heating water with solar in place of natural gas would avoid 300 tons of emissions annually.



Bottom Line



★ Development of a strong solar water heating industry in Arizona benefits Arizona's families, Arizona's environment and Arizona's economy.

★ Arizona should take advantage of it's greatest resource and the following incentives:

state potential federal tax credit.
incentives that



Incentives



- ★ Arizona Residential Tax Credit

- ★ APS Credit Purchase Program

- ★ Other Utility Programs



- ★ Federal Investment Tax Credit

- ★ Federal Residential Tax Credit
(proposed)



- ★ Arizona Sales Tax Exemption



Arizona Solar Water Heating Standards



- ★ Arizona Guidelines for Solar Energy Devices - Arizona Department of Commerce, Energy Office
- ★ Solar Rating and Certification Corporation
- ★ OG-100
- ★ OG-300
- ★ Voluntary Technician Certification



Goal..... to simplify the process for plan review and inspections of Residential Solar Domestic Water Heating (DHW) systems on both public and private buildings by promoting uniformity through MAG jurisdictions.



Permitting Recommendations



- ★ Installing solar should be as easy as replacing a old heater



- ★ Timely approvals



- ★ Work with industry and SRCC to streamline process.

- ★ Work to remove code barriers

- ★ Recognize homeowners rights to install solar (ARS 33-439)